ACCELERATOR ENGINE FOR PROCESSING FUNCTIONS USED IN AUDIO ALGORITHMS

ABSTRACT OF THE DISCLOSURE

5   An engine for processing functions used in audio algorithms. The engine runs in parallel with a digital signal processor (DSP) in an audio chip to increase performance for that chip. Functions performed by the engine include biquad filtering and inverse discrete cosine transform (IDCT) including pre-multiplication, inverse Fast Fourier transform (IFFT), and post-multiplication, which would otherwise be performed by the DSP. The

10   DSP is therefore free to perform other functions demanded by the chip. Resources in the engine are processed in a pipeline structure and are thus highly utilized. Data are stored in a predefined order to increase efficiency.